By the analysis of its droppings (wings and cuticles of eaten insects) it appears that it largely takes Diptera, Lepidoptera, termites, Hymnoptera and small Coleoptera insects. It hunts insects over *Prosopis juliflora* and *Salvadora* spp., over water surfaces (tanks and rain pools), grasslands (lawns in towns) and agricultural fields etc. In towns, lamp posts of streets are its most favourite hunting grounds, it was noted that as bright lamps (mercury vapour lamps) attracts more insects, so these indirectly attract the bat more for food.

The bat flies between 4 to 10 metres above the ground for hunting insects but may dive low upto 25 cms above the ground while chasing a prey.

Hibernation: From December to February when temperature at nights is below 15° it was not observed coming out of its roost for hunting and moved deeply in to crevices to have less effect of cold, yet it was observed to be active therein, moving and scratching etc. The bat flights in light drizzles but in heavy rains ceases to fly.

Breeding: The young were observed from March to April, litter size largely, one young. A young measured head = 1.2 cms, ear = 0.6 cm, wing (patagium) = 3.0 cms, whole length 3.5 cms. The mother licks, suckles her young and occasionally wraps it with her patagium. Young wean in three months.

A very useful bat which consumes harmful insects and has finely adapted itself to be a commensal of man in urban areas enjoying roosting and feeding facilities there. As its droppings dirty house people often plug its roost crevices in houses.

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References

Brosset, A. (1962): Survey of bats in Western India. *J. Bombay nat. Hist. Soc. 59*: 17-19.

Prakash, I. (1960): Taxonomical and biological observations on bats of Rajasthan Desert. *Rec. Ind. Mus. 59*: 149-170.

Walker, E. (1975): Mammals of the World. John Hopkins University Press, Baltimore.

3. OBSERVATIONS ON A ROOST OF FREE-TAILED BAT *TADARIDA PLICATA PLICATA* (BUCHANAN) IN EAST-NIMAR

During the study of bats of East Nimar in 1976 and 1977 some data were gathered on a migratory colony of *Tadarida plicata plicata* (Buchanan). These bats which constitute a major population of molossid fauna in East Nimar from 26th May to September 16, were absent from their roosts during the rest of the year. During May to September the number of individuals in the colony varied at different times: 300, on 28th May 1976; 200, on 26th May 1977; 500, on 20th July 1977; 500, on 18th August; 200, on 1st September; Empty 10th September. The population of these bats decreased substantially daily from September, 1; and the habitat was left vacant by September 10. Although there is no migratory record

nor any evidence of shift in their population in East Nimar during Autumn to the following summer, it is very likely that they migrate to other roosts during this period.

Collection localities:

Only one colony was observed in this survey. These bats have been found roosting a big room in Anand Talkies at Khandwa. The room is 40x20x35 feet in size is dimly lighted and frequently disturbed and waste materials are dumped in this room.

Tadarida plicata plicata has well defined field characters by which it can be distinguished from *Tadarida aegyptiaca*. The former has broad head, and the snout tip to tragus length is always greater than that of *Tadarida aegyptiaca*. *Tadarida plicata plicata* has six incisors in lower jaw. The patterns of fur, covering neck regions, appears to be forming a collar-like shape which gets separated from the rest of body when the head moves down-wards. There is a marked variation in the colour of its fur. This has been noticed in the two individuals of this colony. Two main types given below were mainly observed:

(1) Buff brown above and grey below.

(2) Blackish grey above and grey below.

It was noticed that this bat selects the warmer parts of the room whether on the ceiling or in a crack. The highest temperature of this room was about 40°C. The daily fluctuations may be 10°C in a day.

In the rainy season these bats were found to be present in clusters on rough surface of the walls in the highest parts of the room. The clustering and colony composition it was observed, showed no definite sequence. A pungent, musky, odour was noticed in this room on June 15th 1977, when a large number of bats arrived and both horizontal and vertical cracks of the room were packed with these bats.

The testes (7.5 x 5 mm) of males were exabdominal and scrotum was present. The average body weight of male was 17 to 19 gm, and of the female was 17 to 20 gm. The weight of testis was 100 mg.

A large number of females had a single embryo, of 7 to 10 mm length, in the right horn of uterus. This was noticed in the majority in July 1977, and were so developed that the delivery was expected in October, 1977.

In this roost bats emerged for foraging soon after sun-set and within half an hour the room becomes completely empty. They returned after one hour.

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